

AMENDMENTS TO THE CLAIMS

1. – 14. (Canceled)

15. (Currently amended) ~~The movement device of claim 14 wherein the transducer comprises:~~A movement device comprising movement facilitation devices capable of being coupled to a patient, so as to facilitate independent movement of at least two joints of a limb or digit, said movement device comprising:

a) at least a first and a second movement facilitation device, the first movement facilitation device being disposed so as to facilitate a first movement of a corresponding first joint of said limb or digit, the second movement facilitation device being disposed so as to facilitate a second movement of a corresponding second joint of said limb or digit, wherein the first movement can be performed independently of the second movement, and each of the movement facilitation devices comprising:

an actuator capable of causing the corresponding joint to move,
operating means coupled to the actuator for operating the actuator in response to an input signal,

a sensor capable of providing a corresponding feedback signal relating to at least one quantity selected from the group consisting of a force exerted on the corresponding joint, a force exerted by the corresponding joint, a position of the corresponding joint, a pressure exerted on the corresponding joint and a pressure exerted by the corresponding joint, and

a support structure coupled to the actuator and capable of being coupled to the patient's body such that, when coupled to the patient's body, the support structure is disposed so that the actuator is capable of causing the corresponding joint to move; and

b) controlling means capable of providing an input signal to one of the operating means for controlling said operating means;

wherein each sensor is capable of providing the corresponding feedback signal to means selected from the corresponding operating means and the controlling means so as to affect the operation of one of the actuators,

wherein each sensor comprises a force-position transducer for generating the corresponding feedback signal, and

wherein the transducer comprises:

a) a radiation source and one or more detectors capable of detecting radiation from the radiation source, wherein at least one detector is free to move relative to the radiation source, and

b) a return mechanism coupled to at least one detector,

wherein at least one detector is capable of generating the corresponding feedback signal, wherein said feedback signal is dependent on an intensity of the radiation from the radiation source incident on said detector, said feedback signal relating to at least one quantity selected from the group consisting of a force exerted on the corresponding joint, a force exerted by the corresponding joint, a position of the corresponding joint, a pressure exerted on the corresponding joint and a pressure exerted by the corresponding joint.

16. (Original) The movement device of claim 15 wherein the radiation is selected from the group consisting of light, infra-red, magnetic, ultrasonic and electromagnetic radiation.

17. – 36. (Canceled)

37. (Previously Presented) A method for monitoring at least one parameter selected from the group consisting of the position of a joint and a force exerted by the joint comprising:

a) securing to at least a portion of the patient's body proximate the joint a movement device comprising:

an actuator capable of causing the joint to move,

operating means coupled to the actuator for operating the actuator in response to an input signal,

a sensor capable of providing at least one feedback signal relating to a quantity selected from the group consisting of a force exerted on the joint, a force exerted by the joint, a position of the joint, a pressure exerted on the joint and a pressure exerted by the joint,

a support structure coupled to the actuator and capable of being coupled to the patient's body such that, when coupled to the patient's body, the support structure is disposed so that the actuator is capable of causing the joint to move, and

controlling means coupled to the operating means for controlling the operating means,

wherein the sensor comprises a transducer comprising a radiation source and one or more detectors capable of detecting radiation from the radiation source wherein at least one detector is free to move relative to the radiation source, and a return mechanism coupled to the one or more detectors, wherein each of the one or more detectors is capable of generating one of the at least one feedback signals, wherein said feedback signal is dependent on an intensity of the radiation incident on said detector;

- b) causing the joint to apply a force;
 - c) monitoring the intensity of the intensity of radiation incident on the or each detector; and
 - d) using the intensity of radiation to determine at least one parameter selected from the group consisting of the position of the joint and the force exerted by the joint.
38. — 39. (Canceled)